

REMARKS

Claims 1-4, 6-11, 13-17, 19, and 20 are all the claims pending in the application. Claims 1-4, 6-11, 13-17, 19, and 20 stand rejected on prior art grounds. Applicant respectfully traverses these objections/rejections based on the following discussion.

I. The Prior Art Rejections

Claims 1-4, 6-11, 13-17, 19, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cavallotti et al., hereinafter "Cavallotti" in view of Eastty et al., hereinafter "Eastty". Applicant respectfully traverses these rejections based on the following discussion.

A. The Rejection Based on Cavallotti in view of Eastty

Applicant respectfully traverses the prior art rejection principally because the prior art of record does not teach or suggest the structure shown in Applicant's Figure 3 that includes one set of summation units that output an even filter output (the upper set of summation units) and a second set of summation units that output an odd filter output (the lower set of summation units). As explained in greater detail below, the claims clearly define such a structure and the prior art references to not teach or suggest the structure.

With respect to the claimed structure, independent claims 1 and 15 define that "a first set of summation units has an even output and a second set of said summation units has an odd output." Independent claim 8 similarly defines that "a first set of successive partial summation units has an even output and a second set of said successive partial summation units has an odd output." As mentioned above, this is clearly shown in Applicants' Figure 3 where the upper set of summation units produces an even filter output while the lower set of summation units produces an odd filter output.

The prior art of record does not teach or suggest this feature. More specifically, Cavallotti only discloses a single output from its programmable digital filter. As shown in

Figure 1, Cavallotti only illustrates a single output at the lower right-hand corner of the illustration. Similarly, Figure 2 of Cavallotti illustrates a single output at the lower right-hand corner. In Figure 3 of Cavallotti, a single output is shown at the lower left-hand corner. Figure 4 of Cavallotti similarly shows a single output at the lower left-hand corner. Figure 5 of Cavallotti illustrates a single output along the left-hand side of the drawing. Figure 6 of Cavallotti is an illustration of one of the parallel adders and therefore does not relate to the output of the programmable digital filter. Therefore, as shown above, Cavallotti does not teach or suggest the claimed structure that provides a first set of summation units that produce an even output and a second set of summation units that produce an odd output.

With respect to Eastty, Applicant similarly submits that only a single output is illustrated and that this referenced does not teach or suggest the claimed structure that provides one set of summation units to produce an even output and a second set of summation units to produce an odd output. More specifically, Figure 1 of Eastty illustrates an individual modulator and not the entire circuit. Therefore, Figure 1 of Eastty does not teach or suggest anything about the circuit's output. Figure 2 of Eastty illustrates a single output 5 at the lower right-hand corner. Figure 3 of Eastty is a graph showing amplitude and frequency and does not teach or suggest anything about the circuit's output. Figure 4 of Eastty is an overall flow diagram illustrating an up converter and a down converter and only illustrates a single output at the right-hand side of the drawing. Figure 5 of Eastty also illustrates a single output at the lower right-hand corner. Figure 6 of Eastty similarly illustrates a single output 5 at the lower right-hand corner. Figure 7 of Eastty also illustrates a single output 5 at the lower right-hand corner. Therefore, Applicant again respectfully submits that Eastty does not teach or suggest the claimed invention that utilizes a first set of summation units to produce an even output and a second set of summation units to produce an odd output as claimed and illustrated in Applicant's Figure 3.

Because neither Cavallotti nor Eastty teaches or suggests that the circuit should include a first set of summation units to produce an even output and a second set of summation units to produce an odd output, any combination of these references would not teach or suggest this feature of the invention. Therefore, Applicant respectfully

submits that independent claims 1 and 15 are patentable over the proposed combination of references because the references do not teach or suggest that "a first set of summation units has an even output and a second set of said summation units has an odd output." Similarly, independent claim 8 is also patentable over the proposed combination of references because the references do not teach or suggest that "a first set of successive partial summation units has an even output and a second set of said successive partial summation units has an odd output." In addition, Applicant submits that dependent claims 2-4, 6, 7, 9-11, 13, 14, 16, 17, 19, and 20 are similarly patentable with not only by virtue of their dependency from a patentable independent claim, but also by virtue of the additional features of the invention they define. In view the forgoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

II. Formal Matters and Conclusion

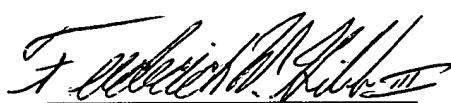
In view of the foregoing, Applicant submits that claims 1-4, 6-11, 13-17, 19, and 20, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0456.

Respectfully submitted,

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